

Applicant respectfully submits that Hemmie does not teach or suggest the claimed features of applicant's invention including at least a ground plane that is positioned to at least partially physically block emissions through an opening provided for an antenna.

5           As discussed in the prior response, Hemmie discloses an integrated feed and down converter apparatus comprising a first printed circuit board that includes top and bottom ground planes and an RF filter located at an input end of the printed circuit board. The RF filter is surrounded by an input ground shield or front end filter shield that is soldered to the top and bottom ground planes of  
10 the printed circuit board. (Hemmie, Abstract).

          Opposing arcuate cutouts 296 (Figure 4) are provided in the front end filter shield. The front end filter shield has the bottoms of its opposing sides 292 and opposing ends 294 soldered to the top and bottom ground planes. The opposing arcuate cutouts 296 are not soldered to the ground plane so as to  
15 provide signal pathways. (Hemmie, col. 8, lines 5-10).

          As shown in Figure 4, and also in Figures 11 and 14, for example, the front end filter shield 290, when soldered in place, abuts the oscillator board 270 such that each plane including each arcuate cutout 296 is normal to both the top and bottom ground planes. Assuming for purposes of argument that the arcuate  
20 cutouts of Hemmie can be considered to teach the claimed opening for the antenna as set forth in claim 1, applicant respectfully submits that Hemmie does not teach or suggest a ground plane positioned to at least partially physically block emissions through either of the arcuate cutouts.

The ground planes of Hemmie only abut the arcuate cutouts. No part of either the top or bottom ground plane extends up into the area or cross-section of the cutouts to even partially physically block emissions through the cutouts. This can be clearly seen in Figures 11 and 14, for example. For at least this  
5 reason, Hemmie cannot be considered to teach the claimed features of applicants invention including a ground plane that at least partially physically blocks emissions through an opening for an antenna.

Hemmie also does not suggest such a feature. There is no discussion or suggestion in Hemmie of altering the position of the ground plane relative to any  
10 openings for an antenna such that the ground plane in any way physically blocks emissions through the openings.

Based on the foregoing, applicant respectfully submits that claim 1 is patentably distinguishable over the Hemmie reference. Independent claims 4, 9, 14 and 18 each include a limitation similar to that discussed above in reference  
15 to claim 1. Claims 2-3, claims 5-8, claims 10-13, claims 15-17 and claims 19-20 depend from and further limit claims 1, 4, 9, 14 and 18, respectively. Thus, claims 2-20 should also be found patentably distinguished over the Hemmie reference for at least the same reasons.

Claims 3, 5 and 12 stand rejected under 35 U.S.C. § 103(a) as being  
20 considered unpatentable over Hemmie as applied to claims 1, 4 and 9 above, respectively, and further in view of U.S. Patent No. 5,628,053 to Araki et al. ("Araki").

As discussed above, claims 3, 5 and 12 each depend from and further limit an independent claim that includes the limitation discussed above or a limitation similar to the one discussed above. Thus, claims 3, 5 and 12 should be found patentably distinguished over the Hemmie reference for at least the  
5 above reasons.

The combination of Araki with Hemmie does not remedy the deficiencies of Hemmie with respect to the present claims.

Araki discloses an integrated multilayered microwave circuit and a method of fabricating such a circuit. Araki does not teach or suggest, however, an  
10 intentional radiator that includes a ground plane that is coupled to shielding and positioned to at least partially physically block emissions through an opening in the shielding provided for an antenna as set forth in claim 1.

Thus, the combination of Araki with Hemmie would also fail to teach or suggest the claimed features of applicant's invention as set forth in claim 1.

15 As mentioned above, independent claims 4 and 9 each include a limitation similar to that discussed above in reference to claim 1. Claim 3, claim 5 and claim 12 depend from and further limit claims 1, 4 and 9, respectively. Thus, claims 3, 5 and 12 should also be found patentably distinguished over the Hemmie and Araki references alone or in combination.

20 Applicant respectfully submits that the applicable objections and rejections have been overcome and claims 1-20 are in condition for allowance. If the examiner disagrees or believes that further discussion will expedite prosecution

of this case, he is invited to telephone applicant's representative at the number indicated below.

If there are any charges, please charge Deposit Account No. 02-2666.

Respectfully submitted,

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Cynthia Thomas Faatz  
Cynthia Thomas Faatz  
Registration No. 39,973  
Intel Corporation  
M/S SC4-202  
2200 Mission College Blvd.  
Santa Clara, CA 95052-8119  
(408)765-2057

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on July 24, 2001

Date of Deposit

Mara E. Brown

Name of Person Mailing Correspondence

Mara E. Brown  
Signature

7/24/01  
Date

## **VERSION OF AMENDED CLAIMS WITH MARKINGS TO SHOW CHANGES**

1. (Twice Amended) An apparatus comprising:  
an intentional radiator including an antenna and a ground plane, the ground plane to be coupled to shielding that includes an opening for the antenna, the intentional radiator to be positioned such that the antenna radiates through the opening and the ground plane at least partially physically blocks emissions through the opening.

4. (Twice Amended) An apparatus comprising:  
an intentional radiator including an antenna and a ground plane; and  
shielding including an opening, the antenna to radiate through the opening, the shielding being coupled to the ground plane, the ground plane being oriented to at least partially physically block emissions through the opening.

9. (Twice Amended) A system comprising:  
a device to be shielded;  
an intentional radiator including an antenna and a ground plane;  
shielding enclosing the device to be shielded except for an opening proximate to the antenna, the shielding being coupled to the ground plane, the ground plane being oriented to at least partially physically block emissions through the opening [by] from the device to be shielded.

14. (Twice Amended) A method for integrating an intentional radiator in a system, the method comprising:

coupling a ground plane of an intentional radiator to system shielding that includes an opening for an antenna coupled to the intentional radiator; and

orienting the ground plane such that the ground plane at least partially physically blocks emissions through the opening.

18. (Twice Amended) An apparatus comprising:

a means for shielding including an opening for an antenna; and

a means for coupling the shielding to a ground plane of an intentional radiator including the antenna, the ground plane being oriented to at least partially physically block emissions through the opening.